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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/540,642 | 03/03/2006 | Dominique Lo Hine Tong | PF030011 | 6708 |

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| 24498 | 7590 | 09/13/2007 |
| JOSEPH J. LAKS, VICE PRESIDENT | | |
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| EXAMINER |
|--------------|
| LEE, BENNY T |

| ART UNIT | PAPER NUMBER |
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| 2817 | |

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/540,642

Applicant(s)

TONG ET AL.

Examiner

Benny Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>23 June 2005</u> . | 6) <input type="checkbox"/> Other: _____ |

The disclosure is objected to because of the following informalities: Note that subheadings should be provided to delineate the different sections of the specification. Page 2, lines 18, 27, note that “realise(d)” should be rewritten as --realize(d)--. Page 4, line 20, note that “microstrip line, this” should be rephrased as --microstrip line. This-- for clarity of description; line 25, note that “centred” should be rewritten as --centered-- for an appropriate characterization. Page 5, lines 28, 30, note that --, as shown in Figure 3-- should be inserted after “rib 6” (i.e. line 28) and “line 7” (i.e. line 30), respectively for clarity of description. Page 6, line 2, note that --(see Figure 4)-- should be inserted after “substrate 5” for clarity of description. Appropriate correction is required.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitations as recited in claim 3 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet”

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pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The specification needs a description corresponding to the subject matter recited in claim 3.

Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, note that "the substrate forming part" lacks strict antecedent basis.

Clarification is needed.

In claim 3, note that it is unclear, even in light of the specification, what characterizes the "characteristic impedance" as being "quasi-constant". Clarification is needed. Also, note that it is unclear what feature is intended the recitation of "its". Clarification is needed.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

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evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al (cited by applicants') taken in combination with Hamasaki.

Schmidt et al discloses a transition between a waveguide and a microstrip circuit, where the waveguide (1) includes a rib structure (i.e. ridge 5) of a linear profile disposed therein and electrically connected to the microstrip (i.e. stripline 3). Note that the waveguide configuration includes lateral metal faces or walls (4) including upper and lower planes and a shoulder (i.e. transverse end wall of the waveguide) to which the rib and microstrip are affixed thereto.

Hamasaki discloses an integrated waveguide to microstrip transition including a "bar" of synthetic (i.e. dielectric) material including a waveguide portion and a microstrip portion. Note that the waveguide portion includes dielectric (17) surrounded by a conductive metallization on the four lateral faces thereof. Note that the microstrip portion includes a strip conductor (11) and an underlying conductor (14) co-extensive with the conductive metallization of the lower lateral face arranged as to sandwich a dielectric (i.e. 16) therebetween.

However, Schmidt et al differs from the claimed invention in that its metal waveguide and microstrip structure are not formed by a "bar" of synthetic (i.e. dielectric) material with appropriate metallic coating thereon to define the waveguide portion & the microstrip line portion, such as claimed. Hamasaki differs from the claimed invention in that its waveguide to

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microstrip transition of a metallized unitary bar does not provide for a configuration in which a "rib" structure would have been provided, such as recited in claim 1.


Accordingly, it would have been obvious to have combined the teachings of each reference, as to have yielded a waveguide to microstrip transition having a rib structure (e.g. like those taught in Schmidt et al) formed by a synthetic material "bar" coated by a conductive material layer (e.g. like that exemplarily taught by Hamasaki). Such a modification would have been considered obvious since it would have predictably realized the specific waveguide to microstrip transition of Schmidt et al in a more lightweight structure afforded by the conductively coated synthetic material, as exemplarily taught by Hamasaki, thereby suggesting the obviousness of such a modification.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Stones et al discloses a waveguide to microstrip transition having a unitary dielectric coated by a dielectric layer. Sano et al discloses a dielectric filled rectangular waveguide electrically coupled to a microstrip line.

Any inquiry concerning this communication should be directed to Benny Lee at telephone number 571 272 1764.

B. Lee


BENNY T. LEE
PRIMARY EXAMINER
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